

Spot Safety Project Evaluation

Project Information

Order ID: 41000028080

Project ID: 10-01-219

Location: NC 16 (Providence Road) and SR 1315 (New Town Road)

County: Union

City: Waxhaw

Division: 10

Signal ID: 10-1329

Countermeasure: Left and Right Turn Lanes were installed to SR 1315, and a Right Turn Lane was installed on NC 16.

Project Completion: July 10, 2009

Project Cost: \$150,000

Map and Aerial (from Google Maps, Coordinates are -- 34.988796,-80.773689)



Naive Before and After Analysis

- Before Period: February 1, 2006 through January 3, 2009 (3 years)
Note- Analysis begin date limited by initial signal installation in 2005
- Const. Period: February 1, 2009 through July 31, 2009
- After Period: August 1, 2009 through March 31, 2014 (4 years, 8 months)
- Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the NC 16 and SR 1315 approaches.
- Target Crashes: Frontal Impact Crashes. Please note that Frontal Impact Crashes were the target crashes for the applied countermeasure. Frontal Impact crashes include: Left turn, same roadway; Left turn, different roadways; Right turn, same roadway; Right turn, different roadways; Head on; and Angle.

<u>Treatment Information</u>	Before (3 yrs)	After (4 yrs, 8 mo)	Percent Reduction (-) Percent Increase (+)
Total Crashes	27	22	N/A
Crashes Per Year	9	4.7	- 47.8 %
Total Severity Index	3.74	4.03	+ 7.8 %
Target Crashes	10	7	N/A
Target Crashes Per Year	5.7	1.5	- 73.7 %
Target Crash Severity Index	4.7	6.29	+ 33.8 %
Volume (2007, 2011)	21,400	22,900	+ 7.0 %

<u>Injury Crash Summary</u>	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	0	0	N/A
Class B injury Crashes	3	0	- 100.0 %
Class C Injury Crashes	7	9	+ 28.6 %
Property Damage Only	17	13	- 23.5 %

<u>Additional Information</u>	Before	After	Percent Reduction (-) Percent Increase (+)
LTSR (Target)	8	5	- 37.5 %
Angle (Target)	1	2	+ 100.0 %
NC 16 LTSR Crashes	4	5	+ 25.0 %
SR 1315 LTSR Crashes	4	0	- 100.0 %
Southbound NC 16 Approach Rear Ends	3	4	+ 33.3 %
Northbound NC 16 Approach Rear Ends	7	3	- 57.1 %

Overall Summary Results

Total Crashes (per year):	- 48 %	(reduction)
Total Crash Severity:	+ 8 %	(increase)
Target Crashes (per year):	- 74 %	(reduction)
Target Crash Severity:	+ 34 %	(increase)
Volume:	+ 7 %	(increase)

Additional Summary Results

LTSR (Target):	- 38 %	(reduction)
Angle Crashes (Target):	+ 100 %	(increase)

Items for Discussion/Concerns

Left turn, same roadway crashes were eliminated on SR 1315 from the before period to the after period (4 to 0 crashes).

Overall, target crashes were reduced in the after period (10 to 7 crashes), but the target severity index did increase by 34 percent.

Data Prepared For

The Traffic Safety Unit *of the*
Transportation Mobility and Safety Division *of the*
Division of Highways *of the*
North Carolina Department of Transportation

Data Prepared By

Principal Investigator: Elizabeth Scott, EI

Work Group/Consultant: Stantec Consulting Services Inc.

Date: May 7, 2014

SS# 10-01-219
Order#41000028080
Union County
Before Period
2/1/06 - 1/31/09

LEGEND

MOVING VEHICLE

PARKED VEHICLE

PARKING VEHICLE

MOVABLE OBJECT

HEAD ON

REAR END

RAN OFF ROAD

DAYLIGHT CRASH

NIGHT CRASH

ANGLE

TURNING

BACKING

SIDESWIPE

INJURY

FATALITY

9 MPH OR LESS

10 MPH TO 19

20 MPH TO 29

30 MPH TO 39

40 MPH TO 49

50 MPH TO 59

60 MPH TO 69

70 AND UP

SPEED UNKNOWN

A ANIMAL

P PEDESTRIAN

B BICYCLE

T TRAIN

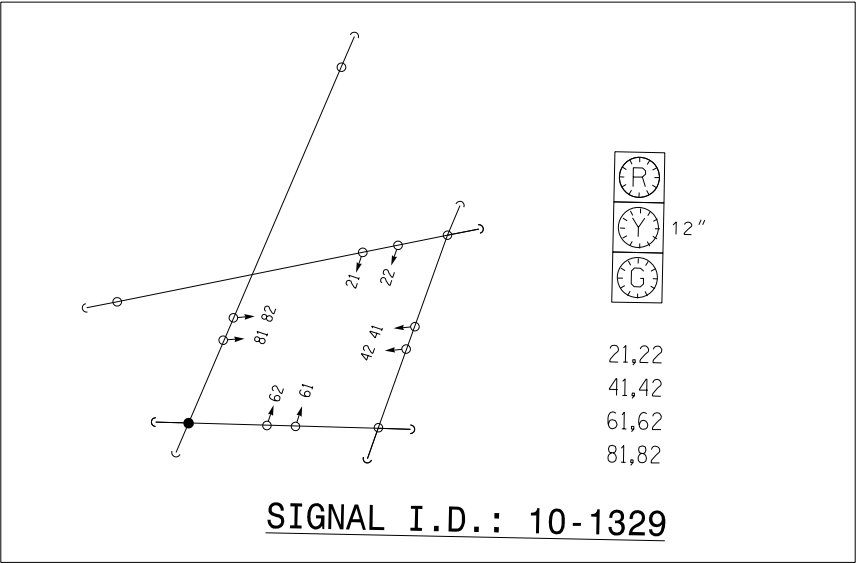
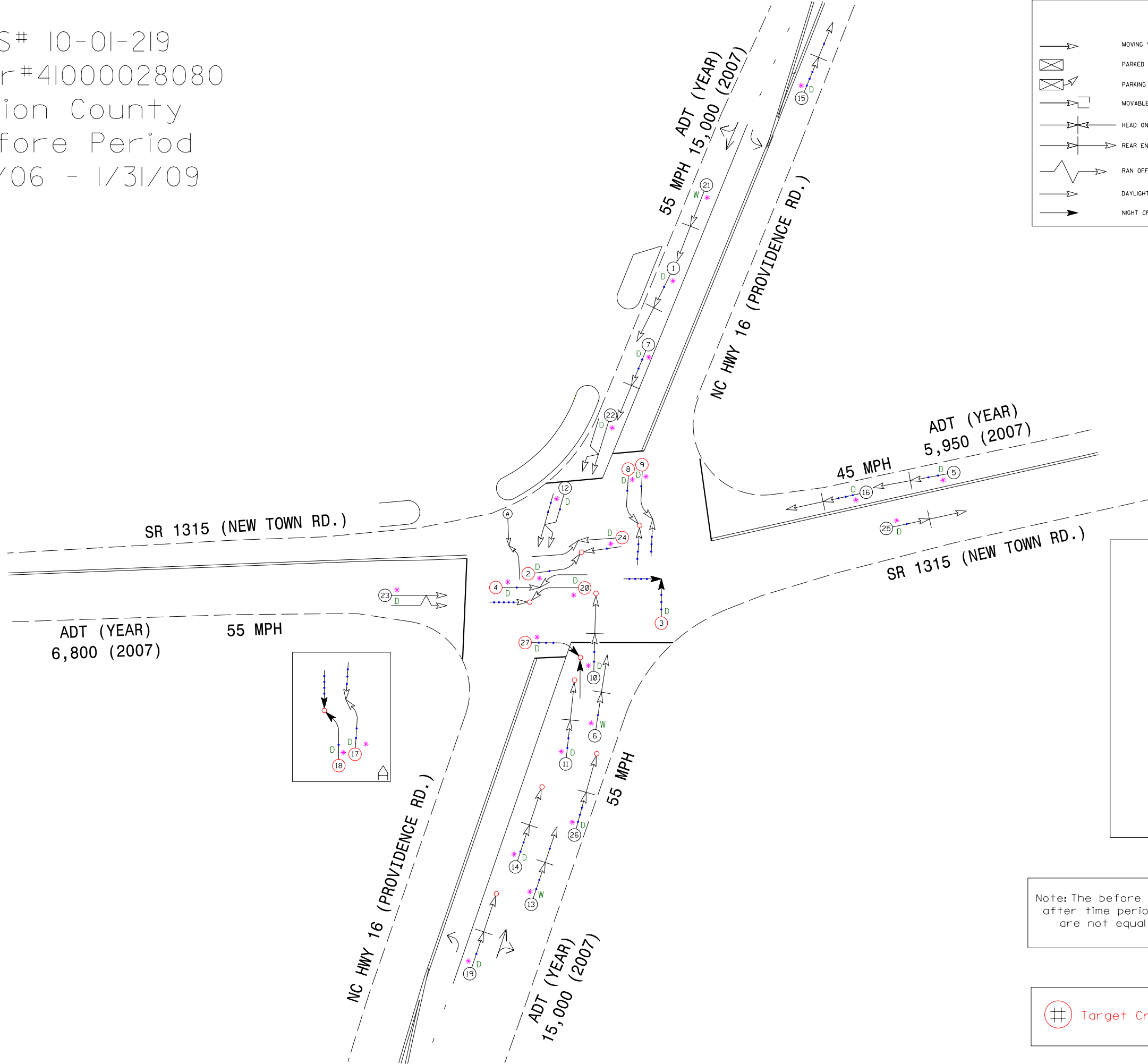
* DRIVER AT FAULT

D DRY

W WET

I ICY OR SNOWY

O Other



Note: The before and
after time periods
are not equal

Target Crashes

N.C. DEPARTMENT of TRANSPORTATION

DIVISION of HIGHWAYS

TRANSPORTATION MOBILITY and

SAFETY DIVISION

Date: 5/8/2014

Prepared By: ESS

Stantec

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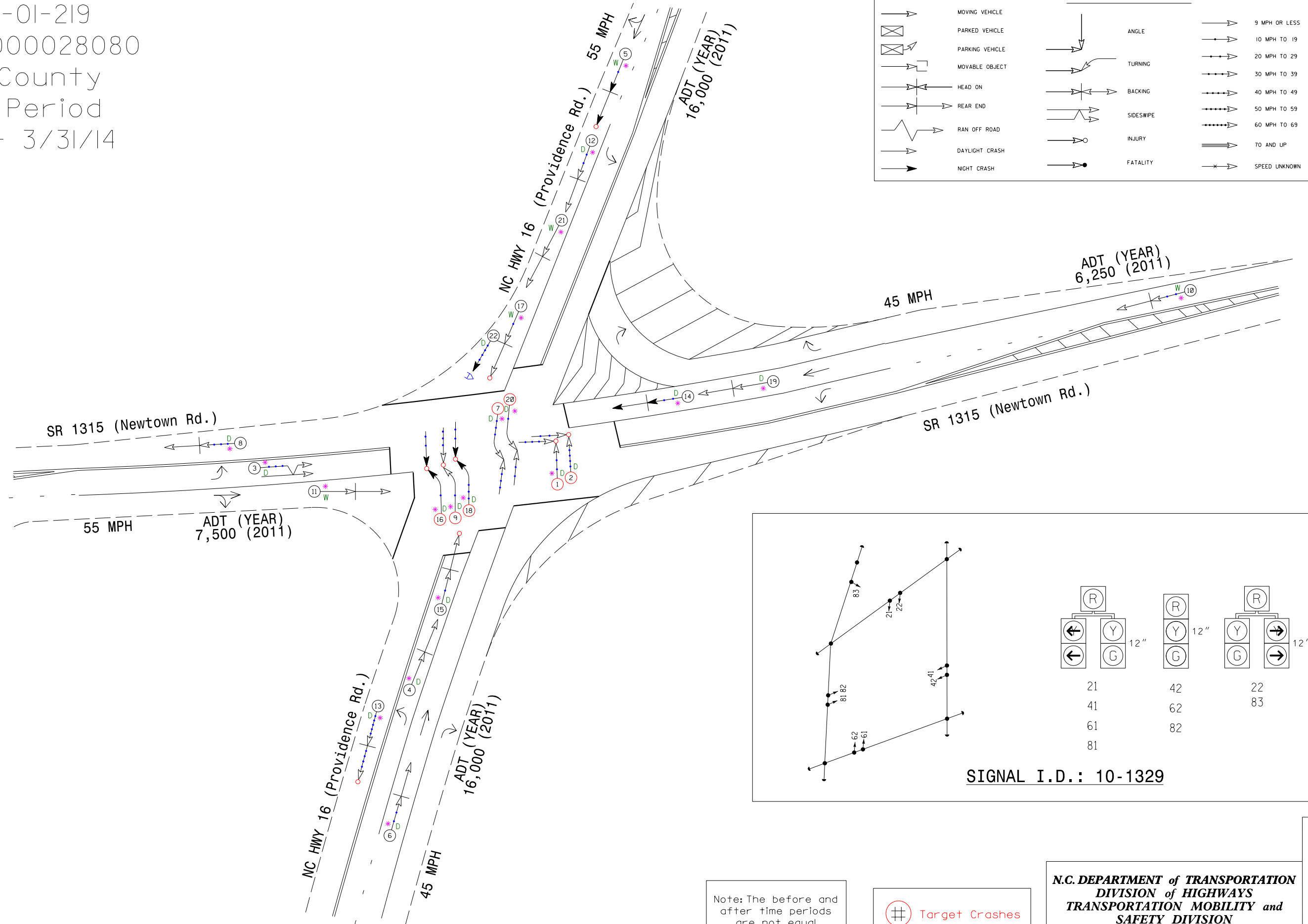
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SS# 10-01-219
Order#41000028080
Union County
After Period
8/1/09 - 3/31/14



Note: The before and after time periods are not equal

Target Crashes

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
TRANSPORTATION MOBILITY and
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